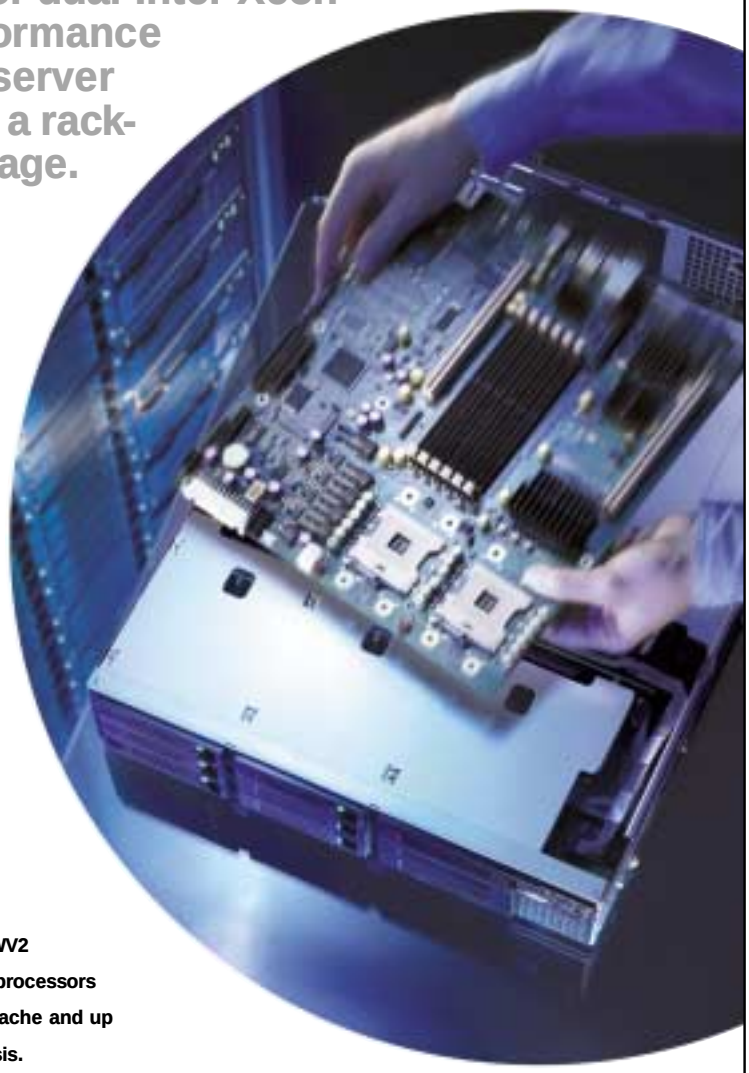
Intel® Server Board SE7501WV2 Product Brief

My customers need even more performance and reliability in a high-density system. Can Intel help?

Yes. The Intel® Server Board SE7501WV2 delivers superior dual Intel® Xeon™ processor performance and advanced server management in a rack-optimized package.



The Intel® Server Board SE7501WV2 accommodates two Intel® Xeon™ processors with 512KB Advanced Transfer Cache and up to six add-in cards in a 2U chassis.

Intel® Server Board SE7501WV2

The Intel® Server Board SE7501WV2 is rack-optimized with features making it uniquely suited for 1U and 2U systems. For example, adapter-slot locations allow for one full-height and one low-profile PCI add-in card in a 1U system, or three full-height and three low-profile cards in a 2U system. The Server Board SE7501WV2 accommodates up to two Intel® Xeon™ processors with 512KB L2 Advanced Transfer Cache and Hyper-Threading Technology. Multiple integrated components provide dual PCI-X buses, dual Intel® PRO/1000 MT Server Network Connections, and up to 12 GB of Error-Correcting Code (ECC) DDR memory support. All component locations and designs are thermally optimized for high-density systems.

High-density server management without the high cost

In high-density rack environments, server management is crucial to ensuring high availability and ease of maintenance. This is why the Server Board SE7501WV2 comes with Intel® Server Management 5.5, offering such capabilities as serial data/console redirection over LAN, which enables customers to redirect remote-management serial traffic and console text to the LAN. This innovative feature targets the rack environment, eliminating the need for management of serial cables and expensive serial concentrators.

Putting the Intel® Server Board SE7501WV2 to work

With its high levels of availability, reliability, and performance, the Intel® Server Board SE7501WV2 is perfect for Web hosting, content caching, messaging, security, high-performance computing (HPC) and more.

The unique design of the Intel® Server Board SE7501WV2 makes it ideal for 1U/2U high-density systems.

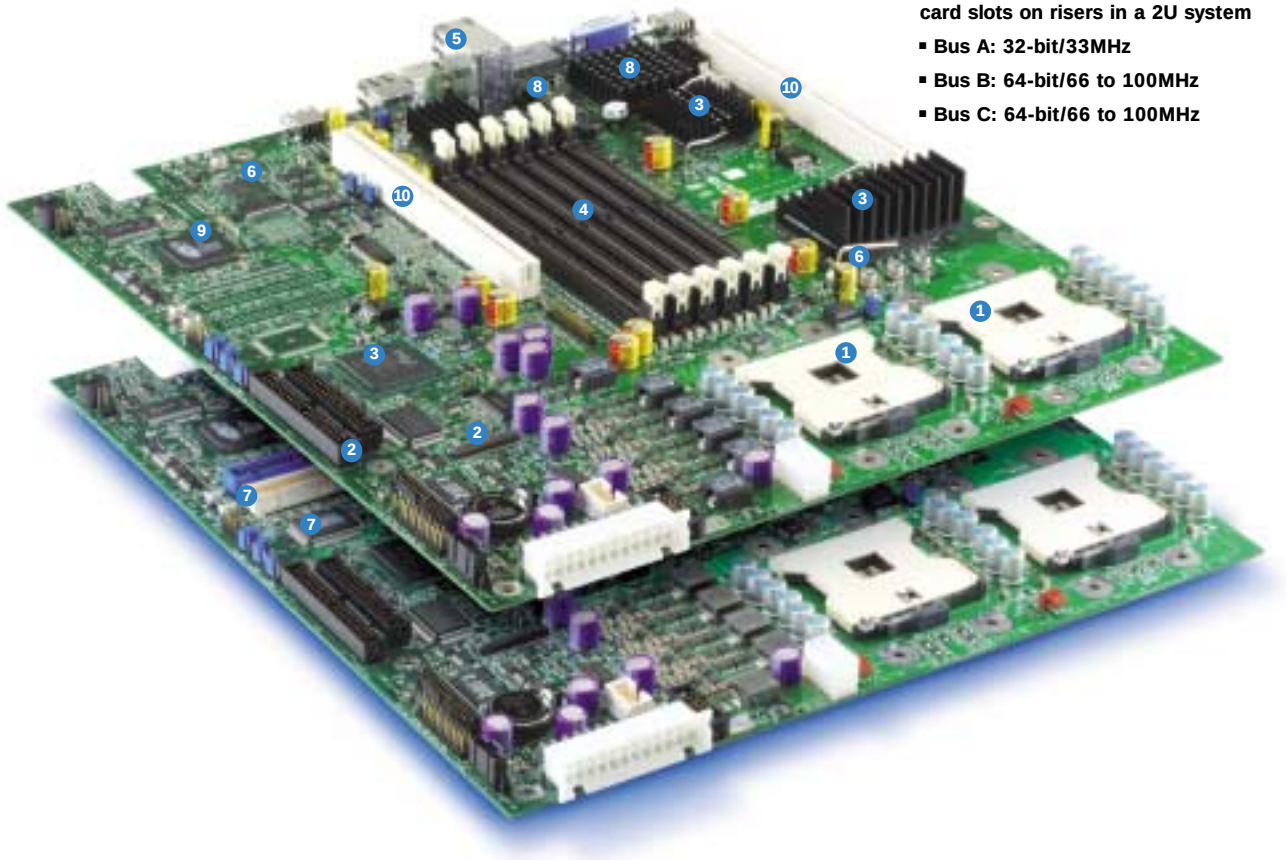
The Intel® Server Board SE7501WV2 is built for ease of server integration and maintenance.

Features	Benefits
Support for one or two Intel® Xeon™ processors with 512KB L2 Advanced Transfer Cache, Hyper-Threading Technology, and a 400MHz or 533MHz system bus	Processing performance for demanding server applications
Support for up to 12 GB of registered ECC DDR200/266 SDRAM with six DIMM sockets	Memory flexibility and capacity to support a wide range of server solutions
Dual (two-way) interleaved memory	High-performance memory subsystem with up to 4.3 GB/sec of data transfer
Triple-peer PCI/PCI-X buses	Bandwidth for intensive I/O needs
1U system: one full-length and one low-profile 64-bit/100 MHz slot on two independent PCI-X buses capable of running at 66–100 MHz, depending on system configuration	Room for two high-throughput adapter cards operating on separate buses
2U system: up to three full-length and three low-profile slots on two independent PCI-X buses capable of running at 66–100 MHz, depending on system configuration	Room for six high-throughput adapter cards with I/O balanced across multiple buses
Two integrated Intel® PRO/1000 MT Server Network Connections (Intel® 82546EB controller)	High bandwidth with widespread compatibility, teaming capability, and redundant links
Optional dual-channel Ultra320 SCSI supporting embedded SCSI striping/mirroring (RAID 0 or 1) and modular ROMB (RAID 0,1, 4, 5, or 10)	High-performance data transfer with embedded RAID functionality
Optional dual-channel ATA/100 RAID	Ability to use low-cost IDE drives without sacrificing data protection
Integrated ATI* Rage* XL video controller with 8 MB of video memory	High-quality video without the need for a video adapter card
Advanced Intel® Server Management software and hardware, including serial data/console redirection over LAN, integrated remote management, event alerting, and proactive fault management	High server availability and low maintenance costs
Three-year limited warranty	Peace of mind

Intel® Server Board SE7501WV2 for the Intel® Xeon™ Processor

How can Intel pack so much into so little space? Twenty years of server board engineering and 10,000 hours of quality testing.

1. Support for two Intel® Xeon™ processors with 512KB L2 Advanced Transfer Cache
2. Two ATA/100 IDE channels
3. Intel® E7501 chipset
4. Up to 12 GB of registered ECC DDR200/266 memory
   - Dual memory channels for up to 4.3 GB/sec data transfer
5. Two Intel® PRO/1000 MT Server Network Connections
   - Intel® 82546EB controller
6. Advanced Intel® Server Management
   - Baseboard Management Controller (BMC)
7. Optional integrated dual-channel ATA/100 RAID
   - Promise* Technology PDC20277 controller
8. Optional integrated dual-channel SCSI
   - Adaptec* AIC-7902 controller
9. Integrated graphics
   - ATI* Rage* XL Graphics with 8MB memory
10. Triple-peer PCI/PCI-X, up to six add-in card slots on risers in a 2U system
    - Bus A: 32-bit/33MHz
    - Bus B: 64-bit/66 to 100MHz
    - Bus C: 64-bit/66 to 100MHz



The Intel® Xeon™ processor with 512KB L2 cache features Hyper-Threading Technology and the Intel® NetBurst™ microarchitecture to deliver unprecedented performance to workgroup-level computing.

The Boxed Intel® Server Board SE7501WV2

A single box contains the server board components you need to build powerful, high-density rack-mount solutions.

Included for easy integration:

1. **One Intel® Server Board SE7501WV2**
2. **Quick Start User Guide**
3. **Resource CD-ROM with Intel® SMaRT Tool Software, server product information, technical documentation, customer support information, drivers and utilities, and web links**
4. **CD-ROM with Intel® Server Management**
5. **PS/2 "Y" cable**
6. **SSI Thin E-Bay–compliant I/O shield with attached EMI gasket**
7. **Board-configuration label**

Deliver the most advanced server technology with world-class customer support. With Intel, you can.

Technology leadership. Take advantage of Intel's 20 years of experience designing and engineering industry-leading server building blocks such as the Intel® Xeon™ processor. Intel® Server Management and the Intel® SMaRT tool are Intel extras that contribute tremendously to server uptime, customer peace of mind, and lower ownership costs.

With Intel, you can give your customers access to the latest server technologies, the highest quality, and the most responsive technical support.

Unsurpassed quality. Intel spends 10,000+ hours testing and validating every piece of an Intel server stack. Uncompromising quality standards translate into higher reliability, fewer repairs, and greater customer satisfaction.

World-class technical support. Intel offers 24x7 phone and Web-based technical support, Advanced Warranty Replacement, a three-year limited warranty, spares kits, and extensive technical training. Integrators also receive a wealth of sales and marketing support in the form of sales tools, videos, and high-quality images for advertising. For more information on Intel's added-value server offerings please visit:

www.intel.com/go/serverbuilder

intel®

Complete Your Intel® Server Board SE7501WV2 with Intel® Server Building Blocks

Add the following Intel building blocks to your Intel® Server Board SE7501WV2 to ensure a highly reliable, available, and scalable server:

Intel® Server Chassis SR1300 is a 1U rack chassis designed specifically for the Intel® Server Board SE7501WV2 and includes the following features:

- Two PCI-X risers with two total 64-bit/66–100MHz slots
- Three one-inch hot-swap SCSI or two cold-swap ATA drive bays
- 350W PFC AC power supply (non-redundant)

Intel® Server Chassis SR2300 is a 2U rack chassis designed specifically for the Intel® Server Board SE7501WV2 and includes the following features:

- Two PCI-X risers with six total 64-bit/66–100MHz slots
- Seven one-inch hot-swap SCSI drive bays
- 500W PFC AC 1+1 power supply (redundant module optional), 480W PFC AC power-supply option

Intel® Xeon™ Processors, based on Intel® NetBurst™ microarchitecture and Hyper-Threading Technology, can slice through the toughest business problems facing dynamic start-ups, large enterprises, and everything in between.

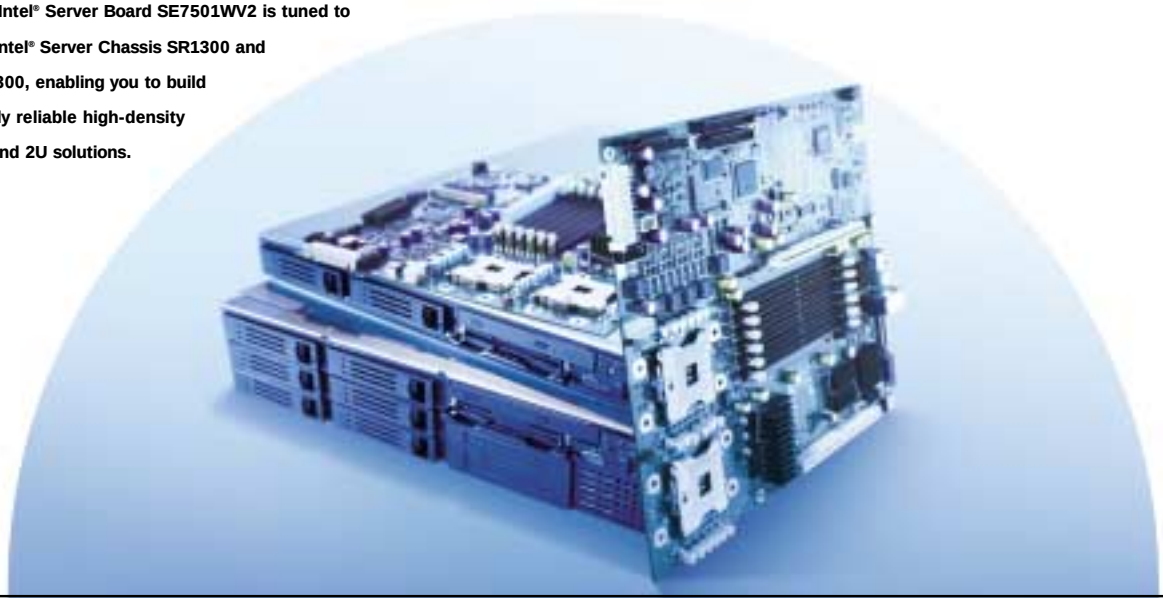
Intel® Server Management monitors key server components and resolves many problems automatically with the help of integrated remote management, event alerting and logging, proactive fault management, and serial data/console redirection over LAN. Intel® Server Management is included with every boxed Intel® Server Board SE7501WV2 at no additional cost.

Intel® RAID Controllers are designed to protect data, applications, and the server operating system from disk failures. Intel offers an affordable high-performance line of RAID products, which are tested and validated for easy integration with Intel server building blocks.

Intel® PRO Server Adapters, including Fast Ethernet and Gigabit Ethernet server adapters, help to reduce bottlenecks and improve availability with industry-leading performance and advanced server features.

Intel server building blocks are validated to work together, saving you R&D, validation, and support expenses—and speeding time-to-market.

The Intel® Server Board SE7501WV2 is tuned to the Intel® Server Chassis SR1300 and SR2300, enabling you to build highly reliable high-density 1U and 2U solutions.



Intel® Server Board SE7501WV2 Specifications

Processor/Cache	
One or two Intel® Xeon™ processors with 512KB of integrated Advanced Transfer Cache and 400 MHz or 533 MHz system bus; for the latest processor support information, visit http://support.intel.com/support/motherboards/server	
System Memory[1]	
Memory Capacity	Six DIMM sockets for up to 12 GB of ECC DDR200/266 memory (256 MB to 2 GB DIMMs supported; memory must be populated in pairs)
Memory Type	DDR200/266 registered SDRAM 72-bit ECC, 184-pin gold-plated DIMMs
DIMM Sizes	128 MB, 256 MB, 512 MB, 1 GB, 2 GB
Memory Voltage	2.5 V only
Error Detection	Corrects single-bit errors, detects double-bit errors (using ECC memory), and supports Intel® Single Device Data Correction (SDDC)
Integrated On-Board	
Chipset	Intel® E7501 chipset
Ultra320 SCSI Controller[2]	Adaptec* AIC-7902 Dual Channel: two Ultra320/LVD channels (connected via one internal 68-pin-wide connector and one 68-pin high-density external SCSI connector); maximum data transfer: 320 MB/sec on each Ultra320/LVD channel; supports HostRAID* (embedded SCSI striping/mirroring)
ATA/100 RAID Controller	Promise* Technology PDC20277 ATA/100 IDE RAID controller for two channels of ATA/100 IDE that can be configured into either RAID level 0 or RAID level 1; maximum data transfer: 100 MB/sec on each ATA/100 channel
Intel® Server Network Connections	Two Intel® PRO/1000 MT Server Network Connections (Intel® 82546EB Controller); supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output
Graphics	ATI* Rage* XL SVGA PCI video controller with 8 MB of video memory
Super I/O Controller	National* PC87417
Input/Output	
PCI	Triple-peer PCI buses, up to six slots on risers in a 2U system; bus A: 32-bit/33MHz, bus B: 64-bit/66–100MHz, bus C: 64-bit/66–100MHz
IDE	Two EIDE channels for a total of four IDE devices (two on legacy connector, two on high-density connector)
USB	Two USB connectors (optional header for two more)
Serial Ports	External RJ45 serial, internal serial header
Floppy Controller	1.44 MB, 2.88 MB, 3-mode support
Keyboard/Mouse	PS/2, 8240A-compatible
Intel® Server Management	
Remote Management	Remote access to system status, logs, configuration data, and utilities without the need for a remote-management card; event filtering and alerting through proactive LAN and mobile devices
System Monitoring and Autorecovery	System health indicators and corrective actions including automated power cycling, OS watchdog timer, and fault-resilient booting
Server Troubleshooting	Continuous health monitoring, text console redirection, and error logs
Serial over LAN	Serial data/console redirection over LAN
Supported Operating Systems	Microsoft* Windows* 2000, Red Hat* Linux*, Novell* NetWare*
Intelligent Platform Management Support	Intelligent Platform Management Interface (IPMI) 1.5
Fully Validated Operating Systems	
Microsoft* Windows* 2000 Advanced Server, Red Hat* Linux* 8, SuSE* Enterprise Server 8, and Novell* NetWare* 6	
System BIOS	
BIOS Type	8Mb Flash EEPROM with AMI* BIOS, Multiboot BBS (BIOS Boot Specification) 1.4-compliant
Special Features	Plug and Play, IDE drive autoconfigure, SMBIOS 2.3, ECC/Parity support, multilingual support, enabled for Rolling/Online BIOS updates
Configuration Utilities	System Setup Utility (SSU) for easy system setup of BIOS utilities, Plug and Play

Jumpers and Front-Panel Connectors	
Jumpers	CMOS clear, password clear, BMC boot block write protect, BIOS recovery
Front-Panel Connectors	Power LED, cool-fault LED, hard-drive access LED, system-fault LED, power/sleep switch, server network connection 1 LED, server network connection 2 LED, reset switch, and NMI switch
Mechanical	
Server Board Style	SSI Thin E-Bay
Server Board Size	12" x 13"
Power Requirements	
+5V	2.6 A maximum continuous current
+5V Standby	1.5 A minimum continuous current
+12V	.5 A maximum continuous current
+3.3V	6.6 A maximum continuous current
–5V	0 A maximum continuous current
–12V	0 A maximum continuous current
Environment	
Ambient Temperature[3]	Operating (system): 10°C to 35°C; non-operating/storage (system): –40°C to +70°C ambient
Relative Humidity	Non-operating: 95%, non-condensing at 30°C

Safety Compliance	
Canada	UL/CUL 950-CSA 950 (UL Recognition Mark)
Europe/Russia	EN60950; CE Mark-EU Directive 73/23/EEC; GOST-R Mark
International	IEC60950
United States	UL/CUL 950-CSA 950 (UL Recognition Mark)
EMI Verification (based on board configured in a compatible[4] Intel host system)	
Australia/New Zealand	Verified to AS/NZS 3548, Class A (C-tick Mark)
Canada	Verified to ICES-003, Class A
Europe	Verified to EN55022, Class A and EN55024 (CE Mark–EU Directive 89/336/EEC)
International	Verified to CISPR-22/CISPR-24, Class A
Japan	Verified to CISPR-22/VCCI, Class A
Korea	RRL Certification to MIC Notices 1997-41 & 1997-42
Russia	Verified to GOSTR 29216-91, GOSTR 50628-95 (GOST-R Mark)
Taiwan	Verified to BSMI 13438, Class A (DOC)
United States	Verified to FCC, Class A

N232 E139761 CANADA ICES-003 CLASS A ME06 D33025

Recommended Configurations and Order Codes

Suggested configurations for 1U and 2U systems using the Intel® Server Board SE7501WV2.

	Intel® SE7501WV2-based Systems				
	1U System with Integrated SCSI	1U System with Integrated ATA/100 RAID	2U System with Integrated SCSI		2U System with Integrated ATA/100 RAID
			Building Block	Platform	
Intel® Server Board SE7501WV2	SE7501WV2SCSI	SE7501WV2ATA	SE7501WV2SCSI	Included	SE7501WV2ATA
Pre-Integrated Platform	—	—	—	SE7501WV2SKU02	—
Intel® Server Chassis SR1300 (1U rack)[5]	KCW	KCW	—	—	—
Intel® Server Chassis SR2300 (2U rack)[5]	—	—	KSW (hot swap power) or KSW480 (fixed power)	Included (KSW)	Reference Chassis only[5]
Chassis Backplane (required)	BCW1USBPWB	BCW1UABPWB	Included	Included	—
Redundant Power Module	—	—	AXX2PSMODL500	AXX2PSMODL500	—
Sliding Rails	AXX1U2URAIL	AXX1U2URAIL	AXX1U2URAIL	AXX1U2URAIL	—
CD-ROM or DVD-ROM/Floppy Module	AXXCDFLOPPY or AXXDVDFLOPPY	AXXCDFLOPPY or AXXDVDFLOPPY	AXXCDFLOPPY or AXXDVDFLOPPY	CD/Floppy Included	—
Locking Bezel (black)	ACWBEZBLACK	ACWBEZBLACK	ASWBEZBLACK	ASWBEZBLACK	—
Serial Cable Kit (RJ45 to DB9 & 2U rear serial port)	AXXRJ45DB92	AXXRJ45DB92	AXXRJ45DB92	AXXRJ45DB92	AXXRJ45DB9
Additional Drive Carriers (10)	FXX2DRVCARBLK	FXX2DRVCARBLK	FXX2DRVCARBLK	FXX2DRVCARBLK	—
Tape-Drive I/O Cable and Tape-Drive Power Cable	—	—	ASWTAPECABLE	ASWTAPECABLE	—
Single-Fan Upgrade for Redundant Cooling	—	—	ASWFAN	Included	—
5V Riser	TRM5RISER02	TRM5RISER02	TRL5RISER02	TRL5RISER02	TRL5RISER02
Chassis Spares Kit	FCWCHASSISKT	FCWCHASSISKT	FSWCHASSISKT	FSWCHASSISKT	—
Electrical Spares Kit	FCWELECTKT	FCWELECTKT	FSWELECTKT	FSWELECTKT	—
Intel® RAID Controller SRCZCR (modular ROMB)[6]	SRCZCR	—	SRCZCR	SRCZCR	—
Intel® PRO/1000 MT Server Adapter (low-profile)[6]	PWLA8490XTL	PWLA8490XTL	PWLA8490XTL	PWLA8490XTL	PWLA8490XTL
ICMB Board Assembly (optional)	AXX2ICMBKIT	AXX2ICMBKIT	AXX2ICMBKIT	AXX2ICMBKIT	AXX2ICMBKIT

For the most current product information on Intel server building blocks, visit: www.intel.com/go/serverbuilder

[1] See http://support.intel.com for a list of validated memory.

[2] The Server Board SE7501WV2 is modular ROMB (RAID On MotherBoard) ready. Please visit http://www.intel.com/go/serverbuilder for details.

[3] Environmental ambient temperature is the system-intake measurement for an Intel® Server Board SE7501WV2 installed in an Intel® Server Chassis SR2300.

[4] Compatible host system denotes the system(s) with which Intel tested the board and found it compliant.

[5] See http://support.intel.com for a complete list of Intel and third-party-compatible chassis.

[6] See http://support.intel.com for a complete list of validated Intel and third-party adapter cards.

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